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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRAN, TUYETLIEN T

ART UNIT

PAPER NUMBER

2179

NOTIFICATION DATE

DELIVERY MODE

07/09/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Office Action Summary	Application No. 10/623,518	Applicant(s) NAGANO ET AL.	
	Examiner TUYETLIEN T. TRAN	Art Unit 2179	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-15 and 31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-15 and 31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to the following communication: Amendment filed 4/02/08. **This action is made final.**
2. Claims 5-15 and 31 are pending in the case. Claim 5 is an independent claim.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. **Claims 5-12, 14, 15 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta (Pub No US 2001/0050679 A1; hereinafter Shigeta) in view of Brooks (Patent No. 6008809; hereinafter Brooks).**

As to claim 5, Shigeta teaches:

A display device connected to a plurality of terminals via network (e.g., image signal source 1a to 1c, see Fig. 1; note that the image signal sources can be personal computers, see col. [0064]; further notes devices 113, 110 are connected through 1394 hub 108, see Fig. 10), the display device comprising:

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a display (e.g., image display unit 36, see Fig. 1);

a communication unit carrying out a two-way communication with the plurality of terminals, capable of receiving the captured image data which converted into a predetermined image size by the plurality of terminals (e.g., see [0087] and [0123]; note communication unit 40 and Image/audio receiving unit 32, see Fig. 1; further note that device 30 can transmit and receive signal, e.g., see step S2 and S5 in Fig. 3);

a window area information generator for dividing a display screen of the display according to a number the terminals to be displayed (e.g., the display screen F1 is divided into 3 display areas F2, F3, F4 to display images coming from PC1, PC2, DVD, see Fig. 6 and Fig. 7) and generating a window area information file containing a display size of the window on the display (e.g., see Figs. 7, 9);

a captured image data memory for storing the captured image data sent from the plurality of terminals to be displayed and the window area information file (e.g., see Fig. 6);

an image synthesizer for generating a synthesized image data from the captured image data and the window area information file stored in the captured image data memory (e.g., see Figs. 6, 7, [0087]);

an image processor for generating a display image data from the synthesized image data and outputting the display image data to the display (e.g., see Fig. 6, [0087] and [0123]); and

the display for displaying the display image data (e.g., image display unit 36, see Fig. 1);

Shigeta does not expressly teach that the display device is a projector; however, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have implemented the multi-screen display function on a projector because Shigeta suggests to the skilled artisan that the multi-screen display functions implemented on the display device can be used for a projector (e.g., see Shigeta [0006]) to obtain the ability to display images of different image signal sources using a projector.

Shigeta does not expressly teach re-dividing the display screen of the display according to a number of the terminals to be displayed when the number of terminals connected to the display is changed.

Brooks teaches an apparatus and method for viewing multiple windows within a dynamic window; wherein the dynamic window is re-divided according to a number of windows to be displayed is changed (e.g., see Figs. 7-12, col. 2 lines 11-51). Accordingly, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the multi-window display as taught in Shigeta to include the feature of dynamically re-dividing the display screen of the display according to a number of windows to be displayed is changed as taught by Brooks to achieve the claimed invention. As suggested by Brooks, the motivation for the combination is to allow multiple windows to be viewed without the time consuming process of having to resize and position multiple windows (e.g., see col. 2 lines 42-48).

As to claim 6, Shigeta further teaches a display control unit including the window area information generator (e.g., see Figs. 7, 9) and the image synthesizer (e.g., see Figs. 6, 7, [0087]). Brooks teaches an insertion function for inserting a new window into a currently display screen to display the new window (e.g., see Figs. 7-12, col. 2 lines 11-51). Thus, combining Shigeta and Brooks would meet the claimed limitations for the same reasons set forth above in claim 5.

As to claim 7, Shigeta further teaches wherein the terminal that provides the captured image data to be displayed on the display screen of the display is selected in a two-way communication of the communication unit (e.g., communication unit 40 and Image/audio receiving unit 32, see Fig. 1; note that device 30 can transmit and receive signal, e.g., see step S2 and S5 in Fig. 3) by one of the network interactive display device and the terminal (e.g., a mouse or digitizer, see [0089]).

As to claim 31, Shigeta further teaches wherein when the captured image data captured using the capture function are of a part of the screen of the terminal display (e.g., see 12a, 12b in Fig. 2), a partial size of the part is sent from the terminal to the projector and the display size of the window assigned to the terminal is determined on the basis of the partial size instead of the received screen size of the terminal display (e.g., see Fig. 6 and [0102]).

As to claim 8, Shigeta further teaches wherein the display control unit has an expansion display function for expanding a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display (e.g., see Fig. 8).

As to claim 9, Shigeta teaches the limitations of claim 5 for the same reasons as discussed with respect to claim 5 above. Shigeta fails to expressly teach a single-window screen selection function for switching the display screen from a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display to a single-window full screen. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the a single-window function for switching the display screen from a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display to a single-window full screen, in view of Shigeta, because Shigeta suggests to the skilled artisan that the size and position of the display area can be changed (e.g., see [0089]) to optimize the full resource of the display and to get user's attention on the window of interest.

As to claim 10, Brooks teaches wherein the display control unit has an erase function for erasing a predetermined window from among a plurality of windows forming a multi-window screen displayed on the display screen of the display (e.g., see Figs. 7-12, col. 2 lines 11-51). Thus, combining Shigeta and Brooks would meet the claimed limitations for the same reasons set forth above in claim 5.

As to claim 11, Shigeta teaches a network interactive display device and the terminal are communicated in a two-way communication of the communication unit (e.g., see [0087], [0123], Fig. 10). Shigeta teaches interactively selecting a predetermined window from among the list of windows displayed in the display device (e.g., see Figs. 6, 8). Therefore, combining Shigeta and Brooks would meet the claimed limitations for the same reasons set forth above in claim 5.

As to claim 12, Shigeta further teaches wherein the image captured data received from the terminal is obtained by designating the whole or a portion of the display screen of the terminal (e.g., see Fig 6).

As to claim 14, Shigeta teaches further comprising a display size determining unit that divides the display screen of the display into windows of the number equal to the number of terminals to be displayed (e.g., the display screen F1 is divided into 3 display areas F2, F3, F4 to display images coming from PC1, PC2, DVD, see Fig. 6 and Fig. 7, [0006] and [0135]), and determines a display size of the window to which the terminal to be displayed is assigned (e.g., resolution for each device PC1, PC2, DVD, see Fig. 7), and a controller that sends the display size determined by the display size determining unit to the corresponding terminal (e.g., step S2 in Fig. 3) through the communication unit (e.g., communication unit 40 and Image/audio receiving unit 32, see Fig. 1), wherein the controller receives, through the communication unit (e.g., unit 40 and 32 in Fig 1), the captured image data, having the converted size equal to the display size of the window assigned to the terminal, from the terminal to which the display size is sent (e.g., see [0102]), and controls the display control unit to synthesize the received captured image data into single screen multi-window format data to be displayed on the display screen of the display (e.g., see [0087]).

As to claim 15, Shigeta further teaches wherein an aspect ratio of the window assigned to the terminal to be displayed is equalized to an aspect ratio of the display screen of the display of the terminal (e.g., note that display attributes for each area also relates to aspect ratio, see [0090] and [0091]).

5. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shigeta in view of Brooks further in view of Mondal (Pub No US 2003/0110244 A1, hereinafter Mondal).

As to claim 13, Shigeta and Brooks teach the limitations of claim 5 for the same reasons as discussed with respect to claim 5 above. However, Shigeta and Brooks fail to expressly teach that the captured image data received from the terminal is obtained by detecting and capturing only a change on

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the display screen of the terminal. Mondal, though, teaches the captured image data received from the terminal is obtained by detecting and capturing only a change on the display screen of the terminal (e.g., see [0022]).

It would have been obvious to one of ordinary skill in the art, having the teachings of Shigeta, Brooks and Mondal before him at the time the invention was made to have utilized the method and function of only transmitting the changes in display data as taught by Mondal to the multi-area display system as taught by Shigeta to reduce the amount of data transmitted to the maintenance computing system so as to reduce the affect on network bandwidth (e.g., see Mondal [0022]).

Response to Arguments

6. Applicant's remarks filed on 4/02/08 have been fully considered but they are moot in new ground(s) of rejections.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

It is noted that any citation to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have

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reasonably suggested to one having ordinary skill in the art. In re Heck, 699 F.2d 1331, 1332-33,216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting In re Lemelson, 397 F.2d 1006,1009, 158 USPQ 275,277 (CCPA 1968)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TuyetLien (Lien) T. Tran whose telephone number is 571-270-1033. The examiner can normally be reached on Mon-Friday: 7:30 - 5:00 (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Weilun Lo can be reached on 571-272-4847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/TuyetLien T Tran/
Examiner, Art Unit 2179

/Weilun Lo/
Supervisory Patent Examiner, Art Unit 2179